

Amendments to the Claims

1 Claim 1 (currently amended): A system for delivering location-based services to mobile clients in a  
2 building structure using short-range wireless technology, comprising:

3 a plurality of short-range wireless communication devices, each of the mobile clients  
4 equipped with at least one of said devices;

5 a plurality of short range wireless access points adapted for communicating with said mobile  
6 clients via said short-range wireless communication devices;

7 a location registry having means for tracking ~~[[the]]~~ a location of each of said mobile clients;  
8 access point software for enabling ~~[[the]]~~ communication of information ~~[[to]]~~ between said  
9 location registry and said access points; and

10 one or more location aware service proxies, each of the location aware service proxies  
11 adapted for intercepting client requests from ones of the mobile clients and for delivering responses  
12 thereto, the responses comprising location-sensitive information generated in view of the tracked  
13 location of the respective mobile client.

1 Claim 2 (currently amended): A system as recited in claim 1, wherein, for at least one of said  
2 wireless access points, said access point software is maintained on an adapter coupled ~~[[to]]~~ thereto  
3 said wireless access points.

1 Claim 3 (currently amended): A system as recited in claim 1, further comprising at least one ~~[[an]]~~  
2 active client list, each of said active client lists maintained by a distinct ~~at least one~~ of said wireless  
3 access points ~~and said adapters coupled to said wireless access points, said active client list and~~

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4 containing Medium Access Control (MAC) addresses for ones of said active clients which are  
5 currently visible to said maintaining wireless access point.

1 Claim 4 (currently amended): A system as recited in claim 1, wherein said wireless access points  
2 include means for detecting ~~[[the]]~~ an identity of a system user.

1 Claim 5 (original): A system as recited in claim 1, wherein said wireless access points have means  
2 for detecting one or more mobile client characteristics.

1 Claim 6 (currently amended): A system as recited in claim 1, wherein said location registry further  
2 comprises:

3 means for receiving notification information from said wireless access points; and

4 means for maintaining a table listing of wireless access points associated with each of said  
5 mobile clients, responsive to said means for receiving.

Claim 7 (canceled)

1 Claim 8 (original): A system as recited in claim 1, wherein said one or more location aware service  
2 proxies comprise at least one of: an HTTP proxy, a WSP proxy~~[[ ]]~~, a DNS proxy, a message  
3 proxy and a directory proxy.

1 Claim 9 (currently amended): A system as recited in claim 8, wherein said DNS proxy includes

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means for determining an IP address for a requested host name, and upon determining that said requested host name corresponds corresponding to a location-based service, means for considering corresponding to a client location of a particular mobile client requesting said host name when determining said IP address.

Claim 10 (currently amended): A system as recited in claim 8, wherein said message proxy includes means for filtering a list of current messages requested from [[said]] a message server based upon a requesting client's client location.

Claim 11 (currently amended): A system as recited in claim 1, further comprising a protocol proxy, said protocol proxy annotating content received from a particular one of said service [[proxy]] proxies.

Claim 12 (currently amended): A system as recited in claim [[1]] 11, wherein said location registry further comprises a query interface adapted for interfacing with which the protocol proxy can obtain to give location information about a mobile client.

Claim 13 (currently amended): A system as recited in claim 1, wherein at least one of said location aware service [[proxy]] proxies further comprises a protocol proxy.

Claim 14 (currently amended): A method for delivering location-based services to a [[a]] plurality of mobile clients located within a building structure using short-range wireless technology, the

1 mobile clients each carrying a short-range wireless communication device, the method comprising  
2 the steps of:

3 ~~establishing a plurality of short-range wireless access points having means for~~  
4 ~~communicating with said mobile clients via said wireless communication devices;~~  
5 communicating information between from said a plurality of short-range wireless access  
6 points [[to]] and a location registry via access point software, each of the access points adapted for  
7 also communicating with the mobile clients via the wireless communication devices;  
8 ~~providing a plurality of location-aware service proxies; and~~  
9 continuously tracking [[the]] a location of each of said mobile clients via said location  
10 registry; and  
11 providing location-aware services to the mobile clients from a plurality of location aware  
12 service proxies, responsive to intercepting client requests from the mobile clients.

1 Claim 15 (currently amended): A method as recited in claim 14, wherein the step of communicating  
2 further comprises communicating information from one more adapters coupled to said access points  
3 to [[a]] said location registry.

1 Claim 16 (currently amended): A method as recited in claim 14, further comprising the step of  
2 ~~continuously~~ continually monitoring traffic generated by said mobile clients, via said access point  
3 software, so as to intercept protocol-specific operations that require location-aware service.

1 Claim 17 (currently amended): A method as recited in claim 14, further comprising the step of

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2 transmitting a register notification from a selected wireless access point to said location registry  
3 upon detecting a new mobile client address on said selected wireless access point.

1 Claim 18 (currently amended): A method as recited in claim 14, further comprising the step of  
2 transmitting a reverse registration notification from a selected wireless access point to said location  
3 registry upon detecting a mobile client departure from said selected wireless access point.

1 Claim 19 (currently amended): A method as recited in claim ~~[[16]]~~ 14, further comprising the step  
2 of monitoring by a particular one of the access points, a ~~[[the]]~~ quantity of time ~~lapsed~~ elapsed  
3 since ~~[[the]]~~ a previous detection of traffic for each of said ~~active~~ mobile clients which is currently  
4 considered active by the particular one.

1 Claim 20 (currently amended): A method as recited in claim 19, further comprising the step of  
2 defining a mobile client departure from a wireless access point ~~based upon said time lapse~~ when said  
3 quantity of elapsed time exceeds a particular value.

1 Claim 21 (currently amended): A method as recited in claim 14, further comprising the step of  
2 transmitting register notifications from a selected wireless access point to said location registry at  
3 timed intervals, each of said register notification notifications including a list of all mobile clients  
4 actively communicating with said selected access point, said location registry defining a mobile  
5 client address as unregistered ~~where~~ when the client is not included on the transmitted active mobile  
6 client list.

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1 Claim 22 (currently amended): A method as recited in claim 14, further comprising the step of  
2 maintaining an active client list associated with each access point, each active client list including  
3 [[the]] a corresponding MAC ~~addresses~~ address for each mobile client currently visible via the  
4 associated access point.

1 Claim 23 (currently amended): A method as recited in claim 22, further comprising the step of  
2 adding a MAC address of a mobile client to the active client list associated with a particular access  
3 point upon detection, by the particular access point, of network traffic from said mobile client.

1 Claim 24 (currently amended): A method as recited in claim 22, further comprising the step of  
2 deleting a MAC address of a mobile client from the active client list associated with a particular  
3 access point upon failure to detect, by the particular access point, respective client network traffic  
4 from said mobile client within a predetermined time period.

1 Claim 25 (currently amended): A method as recited in claim 14, further comprising the step of  
2 transmitting notification information from said wireless access points to said location registry, said  
3 location registry maintaining a table listing of current access points associated with each of the  
4 mobile clients based upon said transmitted notification information.

1 Claim 26 (currently amended): A method as recited in claim 14, further comprising the step of  
2 identifying a system user or a mobile client characteristic in the information communicated from

enhancing the functionality of an at least one of the access [[point]] points to identify a system user  
or a mobile client characteristic the location registry.

Claim 27 (currently amended): A method as recited in claim 17, further comprising the step of  
adding an access point [[ID]] identifier of the selected access point to a location list for a particular  
client [[ID]] upon receiving a registry the transmitted register notification.

Claim 28 (currently amended): A method as recited in claim [[17]] 18, further comprising the step  
of removing an access point [[ID]] identifier of the selected access point from [[the]] a location list  
for a particular client [[ID]] upon receiving [[a]] the transmitted reverse registry register  
notification.

Claim 29 (currently amended): A method as recited in claim 14, wherein the providing step further  
comprising comprises the steps of:

intercepting client requests via said location aware service proxies; and  
generating responses to the intercepted client requests, wherein the generated responses  
incorporate incorporating location sensitive information; and  
transmitting the generated responses from the via said location aware service proxies to the  
mobile clients from which the client requests were intercepted.

Claim 30 (currently amended): A method as recited in claim 14, wherein at least one of the location  
aware service [[proxy]] proxies further comprises a DNS proxy adapted for [[,]] the method further

3 ~~comprising the step of determining an IP address for a requested host name requested in a particular~~  
4 ~~intercepted client request, and upon determining that the requested host name corresponds~~  
5 ~~corresponding to a location-based service, for considering, when determining the IP address, based~~  
6 ~~upon a client the tracked location of a particular mobile client from which the client request was~~  
7 ~~intercepted.~~

1 Claim 31 (currently amended): A method as recited in claim 14, wherein at least one of the location  
2 aware service [[proxy]] proxies further comprises a message proxy adapted for [[.]] the method  
3 ~~further comprising the step of filtering a list of current messages received from a message server,~~  
4 ~~based upon a client the tracked location, via said message proxy of a particular mobile client to~~  
5 ~~which the messages pertain.~~

1 Claim 32 (currently amended): A method as recited in claim 14, further comprising the step of  
2 annotating content received by [[said]] a protocol proxy from one of said location aware service  
3 [[proxy]] proxies with available services.

1 Claim 33 (new): A system as recited in claim 1, further comprising at least one active client list,  
2 each of said active client lists maintained by an adapter coupled to a distinct one of said wireless  
3 access points and containing Medium Access Control (MAC) addresses for ones of said clients  
4 which are currently visible to said maintaining wireless access point.

1 Claim 34 (new): A system as recited in claim 1, wherein each location aware service proxy is



2 adapted for intercepting requests of a particular type.

1 Claim 35 (new): A system as recited in claim 34, wherein each location aware service proxy is  
2 further adapted for determining, from the location registry, the location of a particular client from  
3 which a particular client request is intercepted, such that the determined location can be used when  
4 generating the location-sensitive information.

1 Claim 36 (new): A system as recited in claim 35, wherein the determined location comprises a list  
2 of ones of the access points with which the particular client is currently associated.

1 Claim 37 (new): A system as recited in claim 35, wherein the determined location comprises  
2 geographic coordinates of ones of the access points with which the particular client is currently  
3 associated.

1 Claim 38 (new): A system as recited in claim 35, wherein the determined location comprises a  
2 building and room number of ones of the access points with which the particular client is currently  
3 associated.

1 Claim 39 (new): A system as recited in claim 1, wherein each location aware service proxy is  
2 further adapted for contacting a third-party information source to obtain information used in  
3 generating the location-sensitive information.

1 Claim 40 (new): A system as recited in claim 11, wherein the protocol proxy annotates the content  
2 with available services.

1 Claim 41 (new): A system as recited in claim 40, wherein the available services result from a  
2 location-sensitive filtering of an available services list.

1 Claim 42 (currently amended): A method as recited in claim 32, wherein at least one of the  
2 available services annotations further comprises a link to one of the available services.